



Winston H. Hickox  
Agency Secretary

# Air Resources Board

Alan C. Lloyd, Ph.D.  
Chairman

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Gray Davis  
Governor

September 2, 2003

Dr. Marc Rumminger  
Cleaire Advanced Emission Controls  
14775 Wicks Boulevard  
San Leandro, California 94577-6779

Reference No. RAS-03-37

Dear Dr. Marc Rumminger:

The California Air Resources Board (ARB) has reviewed your request for verification extension of your Longview™ system. Based on its evaluation of the data provided, ARB hereby verifies that the Cleaire Longview™ system reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions), and obtains a 25 percent reduction in oxides of nitrogen (NOx). The system was unable to demonstrate compliance with the 20 percent NO<sub>2</sub> limit which takes effect January 1, 2004.

The Longview™ system is hereby approved as a Level 3 system, achieving 25 percent NOx. This letter includes those engines verified as part of the original Longview™ Verification of April 11, 2003. Based on new data and information, the steady state operation restriction is lifted for the original Longview™ verification and this letter supercedes the Verification Letter of April 11, 2003.

The aforementioned verification is valid provided the following criteria are met:

- The engines are model year 1994 through 2002 Navistar DT466, Cummins ISM or Cummins M11 having the engine family numbers listed in Attachment 1.
- The engines do not employ exhaust gas recirculation (EGR).
- The application must have a duty cycle with a temperature profile greater than 260 degrees Celsius for at least 25 percent of the time.
- The engine must not have a pre-existing oxidation catalyst.
- The engine must be certified in California for on-road applications at a PM emission level of at most 0.1 grams per brake horsepower-hour (g/bhp-hr).
- The engine must be four-stroke.
- The engine must be turbocharged.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

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- The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
- Lube oil, or other oil, should not be mixed with the fuel.  
The engine must be operated on fuel that has a sulfur content of no more than 15 parts per million by weight.
- No changes are permitted to the device. The Air Resources Board must be notified in writing of any changes to any part of the Longview™ system. Any changes to the device must be evaluated and approved by the Air Resources Board.

The ARB estimates that the Longview™ system might incur a fuel economy penalty between three and seven percent depending on the application.

As specified in the Diesel Emission Control Strategy Verification Procedure, the ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is: CA/CLE/2003/PM3/N25/ON/LNF01 of the system-labeling requirement.

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Cleaire is responsible for honoring their warranty (Section 2707) and conducting in-use compliance testing (Section 2709).

Thank you for participating in the ARB's diesel retrofit verification program. Should you have any questions or comments, please contact Ms. Annette Hebert, Branch Chief, Heavy-Duty Diesel In-Use Strategies Branch, at (626) 575-6973.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert H. Cross', followed by a long horizontal line extending to the right.

Robert H. Cross, Chief  
Mobile Source Control Division

Attachment (1)

cc: Annette Hebert, Chief  
Heavy-Duty Diesel In-Use Strategies Branch

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Attachment 1. Non- Oxidation Catalysts M11, ISM and DT466 1994 – 2002 Engine Families  
Appropriate for Verification

Engine Family	Make/Year
RCE661EJDARW	Cummins M11, 1994
RCE661EJDARA	Cummins M11, 1994
RCE661EJDARC	Cummins M11, 1994
SCE661EJDARW	Cummins M11, 1995
SCE661EJDARA	Cummins M11, 1995
SCE661EJDATW	Cummins M11, 1995
SCE661EJDASW	Cummins M11, 1995
SCE661EJDARC	Cummins M11, 1995
TCE661EJDARA	Cummins M11, 1996
TCE661EJDARW	Cummins M11, 1996
TCE661EJDASW	Cummins M11, 1996
TCE661EJDARB	Cummins M11, 1996
TCE661EJDARC	Cummins M11, 1996
TCE661EJDATW	Cummins M11, 1996
VCE661EJDATW	Cummins M11, 1997
VCE661EJDASA	Cummins M11, 1997
VCE661EJDARC	Cummins M11, 1997
VCE661EJDARB	Cummins M11, 1997
WCEXH0661MAA	Cummins M11, 1998
WCEXH0661MAB	Cummins M11, 1998
WCEXH0661MAD	Cummins ISM, 1998
WCEXH0661MAE	Cummins ISM, 1998
XCEXH0661MAH	Cummins ISM, 1999
XCEXH0661MAI	Cummins ISM, 1999
YCEXH0661MAH	Cummins ISM, 2000
YCEXH0661MAI	Cummins ISM, 2000
1CEXH0661MAQ	Cummins ISM, 2001
ICEXH0661MAR	Cummins ISM 2001
2CEXH0661MAS	Cummins ISM, 2002
RNV466D6D0TW	Navistar, 1994
RNV466D6DARW	Navistar, 1994
RNV466D6DASW	Navistar, 1994
SNV466D6DARA	Navistar, 1995
SNV466D6DASA	Navistar, 1995
SNV466D6DATA	Navistar, 1995
SNV466D8DARB	Navistar, 1995
SNV466D8DASB	Navistar, 1995
SNV466D8DATB	Navistar, 1995
TNV466D6DARB	Navistar, 1996
TNV466D6DATB	Navistar, 1996
TNV466D8DARB	Navistar, 1996
TNV466D8DATB	Navistar, 1996
VNV466D6DARA	Navistar, 1997
VNV466D8DARW	Navistar, 1997
VNV466D8DASA	Navistar, 1997

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Engine Family	Make/Year
XNVXH0466ANA	Navistar, 1999
XNVXH0466ANB	Navistar, 1999
YNVXH0466ANA	Navistar, 2000
YNVXH0466ANB	Navistar, 2000
1NVXH0466ANA	Navistar, 2001
1NVXH0466ANB	Navistar, 2001
2NVXH0466ANA	Navistar, 2002
2NVXH0466ANB	Navistar, 2002